What is claimed is:

1. A method for treating a patient, comprising:

selecting a patient having an indwelling intravascular catheter defining a lumen therethrough and having an infection or a substantial risk of infection related to the presence of the catheter;

infusing a catheter lock solution into the lumen, the solution comprising a citrate salt solution having a concentration effective to eliminate infection and to reduce the likelihood of subsequent infection.

2. The method of claim 1 wherein the lock solution comprises a citrate salt in a concentration range, in weight percent, of between about 1.5% and about 50%.

3. The method of claim 2 wherein the lock solution comprises a citrate salt in a concentration range, in weight percent, of between about 10% and about 40%.

4. The method of claim 3 wherein the lock solution comprises a citrate salt in a concentration range, in weight percent, of between about 20% and about 30%.

5. The method of any of claims 1-4 wherein the lock solution includes a viscosifying agent selected from polyethylene glycol, glycerin, polygeline and mixtures thereof.

6. The method of any of claims 1-5 wherein the lock solution has a pH level between about 4.5 and about 6.5.

7. The method of any of claims 1-6 wherein the lumen of the catheter has an internal volume and said infusing includes infusing the lumen with an amount of the lock solution sufficient to fill between about 80% and about 100% of the internal volume of the lumen.

8. The method of any of claims 1-7 wherein the catheter has an internal volume and said adding includes injecting the catheter with an amount of the lock solution greater than or equal to about 1.1 times the internal volume of the lumen.

9. A method of inhibiting infections in an animal having an indwelling catheter defining at least one lumen therethrough, said method comprising infusing into the lumen a pharmaceutically acceptable lock solution including a compound having anticoagulant and antibiotic activity, wherein said lock solution has a density and a viscosity sufficient to maintain the lock solution in said lumen for a desired amount of time, wherein the desired amount of time is at least about 8 hours.

10. The method of claim 9 wherein the lock solution includes a citrate salt in a hypertonic concentration range, in weight percent, of between 1.5% and 50%.

11. The method of claim 10 wherein the lock solution includes a citrate salt in a concentration range, in weight percent, of between 10% and 40%.

12. The method of claim 11 wherein the lock solution includes a citrate salt in a concentration range, in weight percent, of between 20% and 30%.

13. The method of any of claims 9-12 wherein the lock solution includes a viscosifying agent selected from polyethylene glycol, glycerin, polygeline or mixtures thereof.

14. The method of any of claims 9-13 wherein the lock solution has a density of between about 1.02 g/ml to about 1.04 g/ml and a viscosity of between about 1.5 cP and about 4.0 cP.

15. The method of any of claims 9-14 wherein the lock solution has a density of between about 1.02 g/ml and about 1.03 g/ml a viscosity of between about 1.5 cP and about 2.0 cP.

16. The method of any of claims 9-15 wherein the lumen of the catheter has an internal volume and said infusing includes infusing the lumen with an amount of the lock solution sufficient to fill between about 80% and about 100% of the internal volume of the lumen.

17. The method of any of claims 9-16 wherein the lumen of the catheter has an internal volume and said infusing includes infusing the lumen with an amount of

the lock solution greater than or equal to about 1.1 times the internal volume of the lumen.

18. The method of any of claims 9-17 wherein the lock solution has a pH level between about 4.5 and about 6.5.

19. A method of treating animals having a surgically implanted catheter, said method comprising infusing into said catheter a pharmaceutically acceptable lock solution comprising a bactericidal component, said bactericidal component including greater than about 50%, by weight based on the weight of the bactericidal component, of a citrate salt.

20. The method of claim 19 wherein the bactericidal component includes greater than about 75%, by weight based on the weight of the bactericidal component, of a citrate salt.

21. The method of claim 19 or 20 wherein the bactericidal component includes greater than about 90%, by weight based on the weight of the bactericidal component, of a citrate salt.

22. The method of any of claims 19-21 wherein the lock solution includes a viscosifying agent.

23. The method of any of claims 19-22 wherein the pharmaceutically acceptable lock solution has a pH between about 4.5 and about 6.5.

24. The method of any of claims 19-23 wherein the lumen of the catheter has an internal volume and said infusing includes infusing the lumen with an amount of the lock solution sufficient to fill between about 80% and about 100% of the internal volume of the lumen.

25. The method of any of claims 19-24 wherein the lumen of the catheter has an internal volume and said infusing includes infusing the lumen with an amount of the lock solution greater than or equal to about 1.1 times the internal volume of the lumen.

26. An infusion device for infusing a lock solution into a lumen of a catheter, said device comprising:

a syringe;

a pharmaceutically acceptable lock solution contained within the syringe, said lock solution comprising a citrate salt;

wherein said syringe containing the lock solution is sterilized.

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27. The device of claim 26 wherein said lock solution comprising a citrate salt.

28. The device of claim 26 or 27 wherein the lock solution comprises a viscosifying agent selected from polyethylene glycol, glycerin, polygeline and mixtures thereof.

29. The device of any of claims 26-28 wherein the lock solution has a density of between about 1.0 and about 1.5 and a viscosity of between about 1.5 cP and 4.0 cP.

30. A device comprising:

an intravascular catheter having at least one lumen; and

a pharmaceutically acceptable lock solution positioned within the lumen, said lock solution comprising a citrate salt, wherein said lock solution has a pH level below about 6.5.

31. The device of claim 30 wherein said citrate salt comprises a sodium citrate salt.

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32. The device of claim 30 or 31 wherein the lock solution has a pH level between about 4.5 and about 6.5.

33. The device of any of claims 30-32 wherein the lock solution includes a viscosifying agent selected from polyethylene glycol, glycerin, polygeline and mixtures thereof.

34. The device of any of claims 30-33 wherein the lock solution has a density between about 1.0 and about 1.5 and a viscosity between about 1.5 cP and about 4.0 cP.

35. A kit for accessing a patient's intravascular system, comprising:

a catheter defining therethrough at least one lumen;

a container; and

a catheter lock solution contained within the container, the solution comprising a citrate salt solution and a viscosifying agent dissolved or dispersed in the solution.

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36. The kit according to claim 35 wherein said container is a syringe.

37. A catheter lock fluid comprising an aqueous solution of a citrate salt and a viscosifying agent dissolved or dispersed in the solution.

38. The fluid according to claim 37 wherein the viscosifying agent is selected from the group consisting of polyethylene glycol, glycerin, polygeline and mixtures thereof.

39. A composition comprising an aqueous lock solution including, in weight percent, about 1.5% to about 50% of a citrate salt, and an amount of a viscosifying agent sufficient provide the lock solution with a viscosity of from about 1.0 cP to about 4.0cP.

40. The composition of claim 39 wherein the lock solution has a pH level between about 4.5 and about 6.5.

41. The composition of claim 39 or 40 wherein the lock solution includes, in weigh percent, about 10% to about 40% of the citrate salt.

42. The composition of any of claims 39-41 wherein the citrate salt is trisodium citrate.

43. The composition of any of claims 39-42 comprising heparin.